

**EN Product Information**

**Elan-tech®**

EC 152/W 152 MLR      100:30

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Resin  
**EC 152**

Hardener  
**W 152 MLR**

Mixing ratio by weight  
**100:30**

**Application:** High performance composite parts of medium and large size. Manufacturing of structural parts of boats, model aircrafts, racing vehicles, sport components.

**Processing:** Manual lamination at atmospheric pressure of glass, carbon or kevlar fiber tissue. Room temperature curing. Compared to traditional systems, this one presents an high capability to post-cure also with a moderate heat transfer.  
W 152 MLR: medium-slow. Medium and large size components.

**Description:** Un-filled epoxy system, with high modulus. Curing at room temperature plus the post-curing at a moderate temperature (50-60°C) allows to obtain high performances. Further stabilization at higher temperatures improves the thermal resistance of the components.

**SYSTEM SPECIFICATIONS**

**Resin**

Viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	1.200	1.800
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**Hardener**

FTIR spectrum (correlation factor)		IO-10-75		0,990	1,000
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**TYPICAL SYSTEM CHARACTERISTICS**

**Processing Data**

Resin Colour				Pale/yellow	
Hardener Colour				Pale/yellow	
Mixing ratio by weight		for 100 g resin	g	100:30	
Mixing ratio by volume		for 100 ml resin	ml	100:37	
Viscosity at: 25°C	Hardener	IO-10-50 (EN13702-2)	mPas	5	20
Density	25°C Resin	IO-10-51 (ASTM D 1475)	g/ml	1,13	1,17
Density	25°C Hardener	IO-10-51 (ASTM D 1475)	g/ml	0,90	0,95
Pot life	25°C (50mm;200ml)	IO-10-53 (*)	min	95	115
Exothermic peak	25°C (50mm;200ml)	IO-10-53 (*)	°C	190	210
Initial mixture viscosity at:	25°C	IO-10-50 (EN13702-2)	mPas	200	400
Gelation time	25°C (1mm)	IO-10-88 (ASTM D5895-03)	h	8,5	10,5
Demoulding time	25°C (15ml;6mm)	(*)	h	20	30

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**TYPICAL CURED SYSTEM PROPERTIES**

**Properties determined on specimens cured: 24 h TA + 15 h 60°C**

Colour			Pale yellow	
Machinability			Excellent	
Density 25°C	IO-10-54 (ASTM D 792)	g/ml	1,08	1,12
Hardness 25°C	IO-10-58 (ASTM D 2240)	Shore D/15	84	88
Glass transition (Tg)	IO-10-69 (ASTM D 3418)	°C	82	88
Maximum Tg	IO-10-69 (ASTM D 3418)	°C	94	100
Water absorption (24h RT)	IO-10-70 (ASTM D 570)	%	0,10	0,20
Water absorption (2h 100°C)	IO-10-70 (ASTM D 570)	%	0,55	0,65
Max recommended operating temperature	(***)	°C	90	
Flexural strength	IO-10-66 (ASTM D 790)	MN/m <sup>2</sup>	103	117
Maximum strain	IO-10-66 (ASTM D 790)	%	5	7
Strain at break	IO-10-66 (ASTM D 790)	%	20	30
Flexural elastic modulus	IO-10-66 (ASTM D 790)	MN/m <sup>2</sup>	2.600	3.200
Tensile strength	IO-10-63 (ASTM D 638)	MN/m <sup>2</sup>	70	80
Elongation at break	IO-10-63 (ASTM D 638)	%	6	10
Compressive strength	IO-10-72 (ASTM D 695)	MN/m <sup>2</sup>	85	95

IO-00-00 = Elantas Italia's test method. The correspondent international method is indicated whenever possible.

nd = not determined na = not applicable RT = TA = laboratory room temperature (23±2°C)

Conversion units: 1 mPas = 1 cPs 1MN/m<sup>2</sup> = 10 kg/cm<sup>2</sup> = 1 MPa

(\*) for larger quantities pot life is shorter and exothermic peak increases

(\*\*) the brackets mean optionality

(\*\*\*) The maximum operating temperature is given on the basis of laboratory information available being it function of the curing conditions used and of the type of coupled materials. For further possible information see post-curing paragraph.

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- Instructions:** Verify and when necessary, homogenize the components before use. Add the appropriate quantity of hardener to the resin, mix carefully. Avoid air trapping. For the surface preparation (mould or model) refer to the release agents data sheet.
- Curing / Post-curing:** Post curing is always advisable for RT curing systems in order to stabilize the component and to reach the best mechanical properties. In spite of all that, this system is able to reach, already at room temperature, a thermal resistance higher than those of traditional systems and if it is post-cured at moderate temperature (60°C) it is possible to obtain a good thermal resistance. Curing and post-curing that should be carried out before using, the mould as a function of the required thermal resistance. Post cure the tool increasing gradually 10°C/hour. Users should evaluate the best conditions of curing or post-curing depending on the component size and shape. For big size components decrease the thermal gradient and increase the post-curing time. In the case of thin layer applications and composites, post cure on the jig.
- Storage:** Epoxy resins and their hardeners can be stored for two years in the original sealed containers stored in a cool, dry place. The hardeners are moisture sensitive therefore it is good practice to close the vessel immediately after each use.
- Handling precautions:** Refer to the safety data sheet and comply with regulations relating to industrial health and waste disposal.

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The information given in this publication is based on the present state of our technical knowledge but buyers and users should make their own assessments of our products under their own application conditions.